10/724,194

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DATE: Sunday, July 29, 2007

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☐	L10	L1.clm. and (hybridoma or hybri-doma or mab or moab or monoclonal or mono-clonal or ascites).clm.	6
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☐	L3	L1.ti.ab.clm. and (hybridoma or hybri-doma or mab or moab or monoclonal or mono-clonal or ascites).ti,ab,clm.	2155
☐	L2	L1 near5 (hybridoma or hybri-doma or mab or moab or monoclonal or mono-clonal or ascites)	3
☐	L1	$ribitol$	2304

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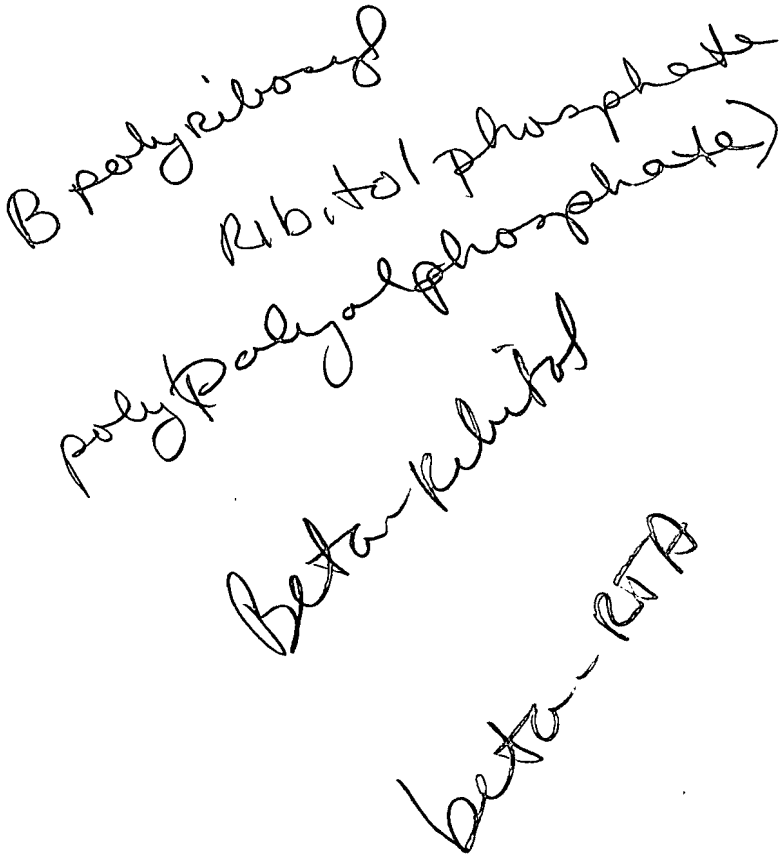
Most Recent Queries	Time	Result
#46 Search **beta ribitol teichoic acid**	10:33:33	13
#45 Search **beta ribitolteichoicacid**	10:33:28	593838
#43 Search **beta rta**	10:31:39	78
#44 Search **beta-rta**	10:31:25	1
#42 Search **beta rta monoclonal**	10:31:06	6
#41 Search **betarta monoclonal**	10:30:39	199609
#38 Search **staphylococcus antibodies lipoteichoic ribitol**	10:28:07	2
#37 Search **staphylococcus monoclonal antibodies lipoteichoic ribitol**	10:27:55	0
#34 Search **staphylococcus aureus monoclonal antibodies teichoic acid**	10:24:00	9
#33 Search **staphylococcus aureus monoclonal antibodies**	10:23:50	795
#32 Search **aureus monoclonal antibodies**	10:23:38	829
#31 Search **aureus monoclonal**	10:22:30	1043
#29 **Related Articles** for **PubMed** (Select **3918002**)	10:19:38	315
#25 Search **staphylococcus polyribosylribitolphosphate**	10:15:16	3
#24 Search **hybridoma staphylococcus polyribosylribitolphosphate**	10:15:10	0
#23 Search **hybridoma staphylococcus ribitolphosphate**	10:14:55	0
#22 Search **hybridoma staphylococcus ribitol**	10:14:46	0
#21 Search **monoclonal staphylococcus ribitol**	10:14:33	0
#16 Search **monoclonal ribitol phosphate**	10:12:16	4
#15 Search **monoclonal ribitolphosphate**	10:12:12	0
#14 Search **hybridoma ribitolphosphate**	10:12:04	0
#13 Search **hybridoma ribitol**	10:11:55	0

#10	Search **antibodies ribitol**	10:08:49	94
#8	Search **anti-ribitol**	10:07:38	2
#5	**Related Articles** for **PubMed** (Select **1818853**)	10:07:28	157
#4	Search **antiribitol**	10:05:11	1
#1	Search **ribitol monoclonal antibodies**		

1. [1] Burnet, F. M., *Cellular Immunology*, (Cambridge University press, 1969).
2. [2] Dilman, V. M., *The Law of Deviation of Homeostasis and Diseases of Aging*, (Boston, J. Wright PSV Inc., 1981), 380 pp.
3. [3] Heyflick, L., *The Limited In-vitro Lifetime of Human Diploid Cell Strain*, (Exp. Cell. Res., 1965, 37, 3) pp. 614-636.
4. [4] Max, E. E., *Immunoglobulin Molecular Genetics in Fundamental Immunology*, (W. E. Paul, New York, Raven Press, 1984).
5. [5] Needham, J. A., *History of Embryology*, 1934.
6. [6] Plisko, A., and Gilchrest, B., *Growth Factor Responsiveness of Co-cultured Human Fibroblasts Declines With Age*, (J. Gerontol, 1983, 38, 3), pp. 513-518.
7. [7] Silverstain, A. M., *The History of Immunology*, (Ed. W. E. Paul, New York, Raven Press, 1984).



1: Indian J Pathol Microbiol. 1991 Jul;34(3):176-80. Links

Antiribitol-teichoic acid antibody (ARTA) in diagnosis of deep seated Staphylococcus aureus infections.

Ayyagari A, Pal N.

Department of Medical Microbiology, Postgraduate Institute of Medical Education & Research, Chandigarh.

Antiribitol-teichoic acid antibody (ARTA) was detected in sera of 30 out of 50 patients (60%) with various acute deep seated Staphylococcus aureus infections and 5 out of 10 chronic osteomyelitis cases, whereas none of the sera from 50 patients with superficial Staphylococcus aureus infections as well from 50 patients without Staphylococcus aureus infections showed antibody response (p less than 0.01). This test is a definite advantage in diagnosis of deep seated staphylococcal infections like endocarditis, lung disease, meningitis and specially in osteomyelitis cases where organisms cannot be isolated and therefore helps in predicting the need for long term antimicrobial therapy.

PMID: 1818853 [PubMed - indexed for MEDLINE

J Neuroimmunol. 1989 Apr;22(2):135-42. Links

Extended repertoire of specific antibodies in CSF of patients with subacute sclerosing panencephalitis compared to those with multiple sclerosis: anti-bacterial antibodies are also increased.

Persson MA, Laurenzi MA, Vranjesevic D.

Department of Clinical Immunology, Karolinska Institute, Huddinge Hospital, Sweden.

Serum and cerebrospinal fluid (CSF) from eight patients with subacute sclerosing panencephalitis (SSPE), 21 with multiple sclerosis (MS) and 16 controls were analyzed for IgG subclass pattern of anti-viral and anti-bacterial antibodies. In CSF of SSPE and MS patients IgG1 and IgG4 antibodies to measles and IgG1 to mumps were increased compared to the controls. In addition, the SSPE patients had elevated levels of IgG1 to PPD, teichoic acid, and to dextran in CSF. The group of MS patients had decreased levels of IgG1 antibodies to Staphylococcus aureus alpha-toxin.

PMID: 2925841 [PubMed - indexed for MEDLINE]

: Infect Immun. 1991 Dec;59(12):4371-6.   Links

Erratum in:

Infect Immun 1993 Feb;61(2):792.

Distinct pattern of antibody reactivity with oligomeric or polymeric forms of the capsular polysaccharide of Haemophilus influenzae type b.

Pillai S, Ciciriello S, Koster M, Eby R.

Praxis Biologics, Inc., Rochester, New York 14623.

The chain length of oligosaccharides required for antibody binding has been studied by using the capsular polysaccharide from Haemophilus influenzae type b or oligosaccharides derived from it. The concentration of competing antigens required to achieve a 50% inhibition of antibody binding by human polyclonal antisera in an in vitro competition enzyme-linked immunosorbent assay decreased progressively from greater than 10(-3) to 5 x 10(-7) M as the inhibiting saccharide chain length increased from 1 to 262 repeat units. Even small oligosaccharides (one or two repeat units) are potentially capable of competing to a significant level if a high enough concentration of saccharides is used. A similar pattern of reactivity was seen with a monoclonal anti-polyribosyl ribitol phosphate antibody, suggesting that the differences in the avidity of the antibody subpopulations in the polyclonal antisera do not contribute to the binding patterns observed. The binding reaction was specific as evaluated with pneumococcal saccharides. Furthermore, an oligosaccharide-protein conjugate binds antibody better than the free oligosaccharides do. Such a difference in binding was not observed between the polysaccharide and a polysaccharide-protein conjugate. Overall, the data suggest that identical epitopes are expressed by oligomeric and polymeric forms of the antigen and that a particularly more stable conformation in polysaccharides is preferred by antibodies. Covalent coupling of oligomers to protein increases the expression of stable conformation of epitopes. The data further suggest that this kind of antigenic analysis may be important for the design and synthesis of glycoconjugate vaccines.

PMID: 1718875 [PubMed - indexed for MEDLINE]

Related Links

- Effect of oligosaccharide chain length, exposed terminal group, and hapten loading on the antibody response of human adults and infants to vaccines consisting of Haemophilus influenzae type b capsular antigen unterminally coupled to the diphtheria protein CRM197. [J Immunol. 1989]
- The intrinsic affinity constant (K) of anticapsular antibody to oligosaccharides of Haemophilus influenzae type b. [J Immunol. 1988]
- Synthetic trimer and tetramer of 3-beta-D-ribose-(1-1)-D-ribitol-5-phosphate conjugated to protein induce antibody responses to Haemophilus influenzae type b capsular polysaccharide in mice and monkeys. [Infect Immun. 1992]
- Response of 7- to 15-month-old infants to sequential immunization with Haemophilus influenzae type b-CRM197 conjugate and polysaccharide vaccines. [Am J Dis Child. 1991]
- Response to a Haemophilus influenzae type b diphtheria CRM197 conjugate vaccine in children with a defect of antibody production to Haemophilus influenzae type b

polysaccharide. [J Allergy Clin Immunol. 1990]
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Preparation of a latex reagent for the detection of anti-Staphylococcus aureus ribitol teichoic acid antibodies.

de Montclos M, Flandrois JP.

Bacteriology Laboratory, Université Claude Bernard Lyon I, Faculté de Médecine Lyon-Sud, Pierre-Benite, France.

Purified S. aureus ribitol teichoic acid was covalently bound to carboxylated latex particles. The immunological properties of the polysaccharide antigen were preserved. The reagent obtained was used for the quantification of anti-ribitol teichoic acid antibodies by means of a direct and rapid agglutination test carried out on a slide. There was good correlation between the preliminary results of this test and those obtained with counter-immunoelectrophoresis (CIE). The method is faster and more sensitive than CIE.

PMID: 2261065 [PubMed - indexed for MEDLINE]

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20060228368 A1

L12: Entry 1 of 4 File: PGPB Oct 12, 2006

DOCUMENT-IDENTIFIER: US 20060228368 A1
TITLE: Method of protecting against staphylococcal infection

CLAIMS:

1. A method for preventing infection in a population of patients at risk for infection by various species of Staphylococcus or various types of Staphylococcus aureus, comprising administering to a patient in the population a composition comprising a conjugate of an isolated S. aureus antigen that contains N-acetylglucosamime linked to ribitol, wherein the antigen binds with antibodies to S. aureus Type 336 deposited under ATCC 55804, wherein the conjugate of the isolated S. aureus antigen produces antibodies that protect against a species or type of Staphylococcus other than S. aureus Type 336.

2. A method according to claim 1, wherein the antigen comprises a 1,5-poly(ribitol phosphate) polymer chain in which the 3-position of the ribitol is substituted by N-acetyl-.beta.-D-glucosaminyl residues.

3. A method for preventing infection in a population of patients at risk for infection by Staphylococcus epidermidis, comprising administering to a patient in said population a composition comprising a conjugate of an isolated S. aureus antigen that contains N-acetylglucosamime linked to ribitol, wherein the antigen binds with antibodies to S. aureus Type 336 deposited under ATCC 55804, wherein the isolated S. aureus antigen produces antibodies that protect against S. epidermidis.

4. A method according to claim 3, wherein the antigen comprises a 1,5-poly(ribitol phosphate) polymer chain in which the 3-position of the ribitol is substituted by N-acetyl-.beta.-D-glucosaminyl residues.

5. A method for treating infection in a population of patients at risk for developing infection by various species of Staphylococcus or various types of Staphylococcus aureus, comprising administering to a patient in said population a composition comprising antibodies to a conjugate of an isolated S. aureus antigen that contains N-acetylglucosamime linked to ribitol, and that binds with antibodies to S. aureus Type 336 deposited under ATCC 55804.

6. A method for treating infection in a patient diagnosed as having a S. epidermidis infection, comprising administering to the patient a composition comprising antibodies to a conjugate of an isolated S. aureus antigen that contains N-acetylglucosamime linked to ribitol, and that binds with antibodies to S. aureus Type 336 deposited under ATCC 55804.

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Search Results - Record(s) 1 through 3 of 3 returned.

☐ 1. Document ID: US 4954449 A

L2: Entry 1 of 3 File: USPT Sep 4, 1990

DOCUMENT-IDENTIFIER: US 4954449 A
TITLE: Human monoclonal antibody reactive with polyribosylribitol phosphate

Brief Summary Text (2):
This invention relates to a novel self-reproducing carrier cell and more specifically to a carrier cell containing genes for the production of human monoclonal antibody reactive with antigenic polyribosylribitol phosphate capsular polysaccharide, to the antibody, to a process of preparing the antibody from the carrier cell, to diagnostic, prophylactic and therapeutic methods and compositions employing this antibody, and to a research composition employing this antibody.

Detailed Description Text (7):
The splenic lymphocytes were thawed, hybridomas were prepared and purified anti-PRP was obtained using routine procedures. The splenic lymphocytes were fused with HFB-1 in the presence of a suitable fusion promoter, which in this case was 50% polyethylene glycol (MW, 1400), generally according to the now standard technique of Olsson and Kaplan described in Proc. Nat'l. Acad. Sci., USA, 77:5429 (1980), which is hereby incorporated by reference into this description. The early hybrids were grown in accordance with a customary procedure in microcultures in hypoxanthine-aminopterin-thymidine medium, which kills all HGPRT- parental myelomas. After 14 days of culture, the supernatants of the microcultures were screened by enzyme immunoassay for the presence of antibodies that bind to PRP capsular polysaccharide of the bacterium Haemophilus influenzae type b. A positive culture was cloned by limiting dilution on a feeder cell, which in this case was irradiated mouse tumor macrophages (P388D1). After 19 days, the microcultures were retested by enzyme immunoassay to identify clones that secreted monoclonal anti-PRP antibody. One clone designated C3,H12 by us was selected and grown in large-scale culture. By Ouchterlony analysis, the antibodies of this clone were determined to be of the IgG isotype, and by using Protein A Sepharose affinity chromatography, purified IgG anti-PRP antibody was obtained. The subclass of this antibody appears to be IgG1. As indicated earlier, now that we have described the procedures for obtaining this carrier cell, we believe that a person skilled in this art will be able to reproduce our work and obtain a self-reproducing carrier cell containing genes that produce human monoclonal antibody reactive with antigenic polyribosylribitol phosphate capsular polysaccharide.

CLAIMS:

1. A self-reproducing hybridoma containing genes that produce a human monoclonal antibody reactive with antigenic polyribosybribitol phosphate capsular polysaccharide.

☐ 2. Document ID: US 4744982 A

L2: Entry 2 of 3 File: USPT May 17, 1988

DOCUMENT-IDENTIFIER: US 4744982 A
TITLE: Human monoclonal antibody reactive with polyribosylribitol phosphate

Brief Summary Text (2):
This invention relates to a novel self-reproducing carrier cell and more specifically to a carrier cell containing genes for the production of human monoclonal antibody reactive with antigenic polyribosylribitol phosphate capsular polysaccharide, to the antibody, to a process of preparing the antibody from the carrier cell, to diagnostic, prophylactic and therapeutic methods and compositions employing this antibody, and to a research composition employing this antibody.

Brief Summary Text (30):
The splenic lymphocytes were thawed, hybridomas were prepared and purified anti-PRP was obtained using routine procedures. The splenic lymphocytes were fused with HFB-1 in the presence of a suitable fusion promoter, which in this case was 50% polyethylene glycol (MW, 1400), generally according to the now standard technique of Olsson and Kaplan described in Proc. Nat'l. Acad. Sci., USA, 77:5429 (1980), which is hereby incorporated by reference into this description. The early hybrids were grown in accordance with a customary procedure in microcultures in hypoxanthine-aminopterin-thymidine medium, which kills all HGPRT- parental myelomas. After 14 days of culture, the supernatants of the microcultures were screened by enzyme immunoassay for the presence of antibodies that bind to PRP capsular polysaccharide of the bacterium Haemophilus influenzae type b. A positive culture was cloned by limiting dilution on a feeder cell, which in this case was irradiated mouse tumor macrophages (P388D1). After 19 days, the microcultures were retested by enzyme immunoassay to identify clones that secreted monoclonal anti-PRP antibody. One clone designated C3,H12 by us was selected and grown in large-scale culture. By Ouchterlony analysis, the antibodies of this clone were determined to be of the IgG isotype, and by using Protein A Sepharose affinity chromatography, purified IgG anti-PRP antibody was obtained. The subclass of this antibody appears to be IgG1. As indicated earlier, now that we have described the procedures for obtaining this carrier cell, we believe that a person skilled in this art will be able to reproduce our work and obtain a self-reproducing carrier cell containing genes that produce human monoclonal antibody reactive with antigenic polyribosylribitol phosphate capsular polysaccharide.

CLAIMS:

1. A human monoclonal antibody reactive with antigenic polyribosylribitol phosphate capsular polysaccharide, said antibody produced by a self-reproducing carrier cell containing genes that produce a human monoclonal antibody reactive with polyribosylribitol phosphate capsular polysaccharide.

☐ 3. Document ID: JP 59089697 A

L2: Entry 3 of 3 File: JPAB May 23, 1984

PUB-NO: JP359089697A
DOCUMENT-IDENTIFIER: JP 59089697 A
TITLE: POLYRIBOSYLRIBITOL PHOSPHATE AND REACTIVE HUMAN MONOCLONAL ANTIBODY

PUBN-DATE: May 23, 1984

INVENTOR-INFORMATION:

NAME	COUNTRY
JIERAADO DABURIYU FUITSUSHIYAA	
KENESU DABURIYU HANTAA JIYUNIA	

US-CL-CURRENT: 435/70.21; 435/332, 435/FOR.111

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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HYBRIDOMAS	29775
HYBRI-DOMA	4
HYBRI-DOMAS	0
MAB	25876
MABS	13950
MOAB	1134
MOABS	417
MONOCLONAL	123933
MONOCLONALS	2898
MONO-CLONAL	356
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7. A method according to claim 5, wherein said composition comprises a monoclonal antibodies.

8. A method according to claim 6, wherein said composition comprises a monoclonal antibodies.

☐ 2. Document ID: US 20050158346 A1

L12: Entry 2 of 4 File: PGPB Jul 21, 2005

DOCUMENT-IDENTIFIER: US 20050158346 A1
TITLE: Antimultiorganism Glycoconjugate vaccine

FD 2004

CLAIMS:

4. The glycoconjugate preparation of claim 1, which comprises a 1,5-poly(ribitol phosphate) and a 1,3-poly(glycerol phosphate).

5. The glycoconjugate preparation of claim 1, which comprises (a) an unsubstituted 1,5-poly(ribitol phosphate); (b) a 1,3-poly(glycerol phosphate); and (c) a poly(2-acetamido-2-deoxy-.beta.-glucosyl-1.fwdarw.4- -ribitol phosphate) with the phosphodiester bonds located between C-1 of ribitol and C-3 of 2-acetamido-2-deoxy-.beta.-glucose.

6. A glycoconjugate preparation consisting essentially of (a) an unsubstituted 1,5-poly(ribitol phosphate) bound to a protein or peptide, or (b) an unsubstituted 1,3-poly(glycerol phosphate) bound to a protein or peptide.

7. A glycoconjugate preparation comprising (a) an unsubstituted 1,5-poly(ribitol phosphate); (b) a 1,3-poly(glycerol phosphate); and (c) a poly(2-acetamido-2-deoxy-.beta.-glucosyl-1.fwdarw.4-ribitol phosphate) with the phosphodiester bonds located between C-1 of ribitol and C-3 of 2-acetamido-2-deoxy-.beta.-glucose, wherein one or more of the polysaccharides is bound to a protein or a peptide.

21. The antibody of claim 16, which is a collection of one or more monoclonal antibodies.

☐ 3. Document ID: US 6218166 B1

L12: Entry 3 of 4 File: USPT Apr 17, 2001

DOCUMENT-IDENTIFIER: US 6218166 B1

** See image for Certificate of Correction **
TITLE: Adjuvant incorporation into antigen carrying cells: compositions and methods

CLAIMS:

21. The composition of claim 20, wherein said adjuvant is lipoteichoic acid (LTA), ribitol technic acid (RTA), glycerol teichoic acid (GTA), hemocyanin from keyhole limpet (KLH), chitin, chitosan, muramyl dipeptide (MDP), threonyl-MDP, a fatty acid derivative of muramyl dipeptide (MTPPE), bacillus Calmette-Guerin (BCG), cell wall skeleton (CWS), trehalose dimycolate, QS21, Quil A or lentinen.

39. The method of claim 37, wherein a spleen cell sample is obtained from said animal to provide a monoclonal antibody.

☐ 4. Document ID: US 5955079 A

L12: Entry 4 of 4 File: USPT Sep 21, 1999

DOCUMENT-IDENTIFIER: US 5955079 A
TITLE: Dual carrier immunogenic construct

CLAIMS:

27. The dual carrier immunogenic composition of claim 4, wherein at least one primary carrier is H. influenzae type b polyribosyl-ribitol-phosphate.

29. The dual carrier immunogenic composition of claim 15, wherein at least one primary carrier is H. influenzae type b polyribosyl-ribitol-phosphate.

43. The immunotherapeutic composition of claim 42, wherein the B cells are used to produce monoclonal antibodies.

47. The immunotherapeutic composition of claim 46, wherein the B cells are used to produce monoclonal antibodies.

51. The immunotherapeutic composition of claim 50, wherein the B cells are used to produce monoclonal antibodies.

61. The immunotherapeutic composition of claim 58, wherein the B cells are used to produce monoclonal antibodies.

62. The immunotherapeutic composition of claim 59, wherein the B cells are used to produce monoclonal antibodies.

63. The immunotherapeutic composition of claim 60, wherein the B cells are used to produce monoclonal antibodies.

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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Term	Documents
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Zentralbl Bakteriol Mikrobiol Hyg [A]. 1988 Jan;267(3):414-24. Links

Study of Staphylococcus aureus teichoic acid immunodominant site by help of synthetic haptens.

Pérouse de Montclos M, Boullanger P, Flandrois JP.

Laboratoire de Bactériologie, Université Claude Bernard Lyon I, Faculté de Médecine Lyon-Sud.

The beta ribitol teichoic acid was extracted and purified from Staphylococcus aureus strain Wood 46 and chemically and immunologically characterised. Rabbit antiserum was prepared against formalin killed Staphylococcus aureus cells. Liquid phase immunoprecipitation of the beta ribitol teichoic acid-anti-Staphylococcus aureus serum system was studied by laser nephelometry. Various mono- and disaccharides (N-acetyl-glucosamine-ribitol with alpha- or beta-linkage and N-acetyl-glucosamine-ribitol-phosphate with beta-linkage) were prepared by organic synthesis, reproducing part of the ribitol teichoic acid molecule. Inhibition by those mono- or disaccharides of the precipitation of the beta-ribitol teichoic acid-Staphylococcus aureus antibodies system was studied quantitatively by determining inhibitory ratio of each inhibitor. Glucose, ribitol and glucosamine were weak inhibitors whereas N-acetyl-glucosamine was a better one, stronger than disaccharide with an alpha-linkage. The beta linked disaccharide and beta-methyl-N-acetyl-glucosamine gave comparable inhibition and both compounds were effective inhibitors. The most potent inhibitor was phosphorylated beta-linked disaccharide which inhibited 25% more than the same disaccharide without phosphorus. Thus, the function of phosphorus in Staphylococcus aureus beta ribitol teichoic acid recognition by antibodies was demonstrated.

PMID: 3131981 [PubMed - indexed for MEDLINE]

Zentralbl Bakteriol Mikrobiol Hyg [A]. 1988 Jan;267(3):414-24. Links

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PMID: 3131981 [PubMed - indexed for MEDLINE]

J Bacteriol. 1985 Jan;161(1):299-306.

Structure of the linkage units between ribitol teichoic acids and peptidoglycan.

Kojima N, Araki Y, Ito E.

The structure of the linkage regions between ribitol teichoic acids and peptidoglycan in the cell walls of Staphylococcus aureus H and 209P and Bacillus subtilis W23 and AHU 1390 was studied. Teichoic acid-linked saccharide preparations obtained from the cell walls by heating at pH 2.5 contained mannosamine and glycerol in small amounts. On mild alkali treatment, each teichoic acid-linked saccharide preparation was split into a disaccharide identified as N-acetylmannosaminyl beta(1----4)N-acetylglucosamine and the ribitol teichoic acid moiety that contained glycerol residues. The Smith degradation of reduced samples of the teichoic acid-linked saccharide preparations from S. aureus and B. subtilis gave fragments characterized as 1,2-ethylenediol phosphate-(glycerolphosphate)3-N-acetylmannosaminyl beta(1----4)N- -acetylxylosaminitol and 1,2-ethylenediolphosphate-(glycerol phosphate)2-N-acetylmannosaminyl beta(1----4)N-acetylxylosaminitol, respectively. The binding of the disaccharide unit to peptidoglycan was confirmed by the analysis of linkage-unit-bound glycopeptides obtained from NaIO4 oxidation of teichoic acid-glycopeptide complexes. Mild alkali treatment of the linkage-unit-bound glycopeptides yielded disaccharide-linked glycopeptides, which gave the disaccharide and phosphorylated glycopeptides on mild acid treatment. Thus, it is concluded that the ribitol teichoic acid chains in the cell walls of the strains of S. aureus and B. subtilis are linked to peptidoglycan through linkage units, (glycerol phosphate)3-N-acetylmannosaminyl beta(1----4)N-acetylglucosamine and (glycerol phosphate)2-N-acetylmannosaminyl beta(1----4)N-acetylglucosamine, respectively.

PMID: 3918002 [PubMed - indexed for MEDLINE]

J Bacteriol. 1985 Jan;161(1):299-306.

Structure of the linkage units between ribitol teichoic acids and peptidoglycan.

Kojima N, Araki Y, Ito E.

The structure of the linkage regions between ribitol teichoic acids and peptidoglycan in the cell walls of Staphylococcus aureus H and 209P and Bacillus subtilis W23 and AHU 1390 was studied. Teichoic acid-linked saccharide preparations obtained from the cell walls by heating at pH 2.5 contained mannosamine and glycerol in small amounts. On mild alkali treatment, each teichoic acid-linked saccharide preparation was split into a disaccharide identified as N-acetylmannosaminyl beta(1----4)N-acetylglucosamine and the ribitol teichoic acid moiety that contained glycerol residues. The Smith degradation of reduced samples of the teichoic acid-linked saccharide preparations from S. aureus and B. subtilis gave fragments characterized as 1,2-ethylenediol phosphate-(glycerolphosphate)3-N-acetylmannosaminyl beta(1----4)N- -acetylxylosaminitol and 1,2-ethylenediolphosphate-(glycerol phosphate)2-N-acetylmannosaminyl beta(1----4)N-acetylxylosaminitol, respectively. The binding of the disaccharide unit to peptidoglycan was confirmed by the analysis of linkage-unit-bound glycopeptides obtained from NaIO4 oxidation of teichoic acid-glycopeptide complexes. Mild alkali treatment of the linkage-unit-bound glycopeptides yielded disaccharide-linked glycopeptides, which gave the disaccharide and phosphorylated glycopeptides on mild acid treatment. Thus, it is concluded that the ribitol teichoic acid chains in the cell walls of the strains of S. aureus and B. subtilis are linked to peptidoglycan through linkage units, (glycerol phosphate)3-N-acetylmannosaminyl beta(1----4)N-acetylglucosamine and (glycerol phosphate)2-N-acetylmannosaminyl beta(1----4)N-acetylglucosamine, respectively.

PMID: 3918002 [PubMed - indexed for MEDLINE]